LOAN SANCTIONING PREDICTION SYSTEM

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OVERVIEW :

In 2016, Kacheria, Shivakumar, Sawkar and Gupta [6] suggested a loan sanctioning prediction procedure based on NB approach integrated with K-Nearest Neighbor (KNN) and binning algorithms. The seven parameters considered were income, age, profession, existing loan with its tenure, amount and approval status. The sub-processes include, Pre-processing (handling the missing values with KNN and data refinement using binning algorithm), Classification using NB approach and Updating the dataset frequently results in appropriate improvement in the loan prediction process. Experimentation put-forth the conclusion that, integration of KNN and binning algorithm with NB resulted in improved prediction of loan sanctioning process.

MERITS :

- Missing data can be dealt with K-NN algorithm. K-NN is a simple algorithm that stores all available data and classifies new data based on a similarity measure (e.g., distance functions).
- The binning algorithm is used for removal of these anomalies. These algorithms will improve the efficiency and make the data set more consistent.
- For predicting whether the loan will be approved or not, the Naïve Bayes approach is used. Naïve Bayes algorithm is a classification algorithm with the naïve assumption of independence between every pair of features. The combination of K-NN, Binning and Naïve Bayes algorithms gives us the prediction.
- To improve the accuracy of the system, a hybrid of Naïve Bayes and K-means can be used.

DEMERITS :

- KNN doesn't work well with a large dataset, dataset with a high number of dimensions and it is sensitive to outliers and missing values.
- Binning leads to loss of information.
- Naive Bayes assumes that all features are independent or unrelated, so it cannot learn the relationship between features.